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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/505,356

08/19/2004

Gerald J Julien

Ice US1

5987

7590
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02/11/2008

EXAMINER

WALTERS, JOHN DANIEL

ART UNIT

PAPER NUMBER

3618

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/505,356	Applicant(s) JULIEN, GERALD J	
	Examiner JOHN D. WALTERS	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1 – 4 and 6 – 20 have been examined. Claim 5 has been canceled by Applicant.

Finality of the previous Office Action has been rescinded based upon newly found prior art. An action on the merits based upon the newly found prior art follows.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 – 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Julien (WO9729892). Julien discloses a material processing steps comprising:

- cutting a blank from a sheet of Type 60 Nitinol which has been hot worked at a temperature of about 900°C to 950°C (page 17, lines 14 – 30);
- heating to between 600°C to about 800°C and immediately quenching to ambient temperature producing a hardness of about 48 - 53Rc. (page 20, lines 6 – 17);
- grinding to a desired profile and sharpness (page 2, lines 12 – 21);

- heating to about 850°C to 1000°C and immediately quenching to produce a hardness of above 56Rc. (page 29, lines 32 and 33 to page 30, lines 1 – 15);
- wherein said grinding includes the use of a cubic boron nitrate grinding wheel (page 21, lines 1 – 7);
- heating to a temperature of about 700°C, placing between dies having a desired shape, i.e. flat, and holding for a period of at least 15 minutes (page 19, lines 24 – 34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 4 and 13 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's disclosure in view of Abkowitz et al. (6,318,738) and Julien (WO9729892). Applicant's disclosure states that the following physical structures are "...conventional and are well known to those skilled in the art":

- a blade body having an ice contacting bottom edge (Fig. 1, item 30);
- said blade body having a structure for engaging a blade holder (Fig. 2, item 34);
- said bottom edge having opposed corners that are sharpened (Fig. 3);
- said blade holder being connected to a boot (Fig. 1).

Abkowitz discloses titanium composite skate blades comprising:

- a titanium material blade, defined as any of the following: pure titanium, titanium alloys, or titanium matrix composites (column 2, lines 41 – 44).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the old and well known blade structure with the titanium material of Abkowitz in order to provide improved strength, corrosion resistance, wear resistance and reduced weight (column 1, lines 59 – 62).

Abkowitz does not specifically disclose the use of Type 60 Nitinol, however, Julien discloses a blade comprising:

- an inter-metallic compound of about 60% nickel and about 40% titanium by weight (abstract).

Applicant lists many standard physical properties for “Type 60 Nitinol” within claims 1 – 4 and 13 – 20. Each material selected would provide differing physical properties, as these properties are dependent upon the physical and chemical structure of each individual material. It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to make use of the material of Julien with the old and well known skate blade made from a titanium material, as taught by Abkowitz, in order to provide corrosion resistance, hardness, toughness and flexibility, (page 2 of 17, paragraph 10).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Julien (WO9729892). Julien discloses a material processing steps as described within the

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rejections under 35 USC 102. Julian does not disclose the use of rapid quenching in coolant after holding in a shaping press. Julian does, however, disclose that once Type 60 Nitinol is plastically deformed under heat and clamped into a die, the part must drop to below 400°C before the part will hold shape. Julian allows this to happen via the part dispersing heat to the ambient environment, i.e. using air as a coolant. It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to make use of a coolant bath to provide quicker and more efficient cooling of said part in an effort to bring it below 400°C in as rapidly as safe for the material. This would provide quicker cycle times for the shaping press machinery and better throughput for part assembly.

Response to Arguments

Applicant's arguments with respect to claims 1 – 4 and 13 – 20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Buehler et al. (3,174,851) disclose nickel-base alloys;
- Sahatjian (4,909,510) discloses a ports racquet netting;
- Murai (4,952,044) discloses a metallic eyeglass frame and method for making the same;

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- Wood (5,776,214) discloses a method for making abrasive grain and abrasive articles;
- Carpenter et al. (6,149,742) disclose a process for conditioning shape memory alloys;
- Johnson et al. (6,266,914) disclose spinner-type fishing lures and wire and cable fishing leaders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN D. WALTERS whose telephone number is (571)272-8269. The examiner can normally be reached on Monday - Friday, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher P Ellis/
Supervisory Patent Examiner, Art Unit 3618

John D. Walters
Examiner
Art Unit 3618

/J. D. W./
Examiner, Art Unit 3618